FOR MORE INFORMATION

For more information contact your state or local air pollution control agency, State Small Business Assistance Program, or State Small Business Ombudsman (states and local agencies may have different or additional requirements). You may also contact the EPA Regional Office (below) where your state or territory resides.

Region	States	Telephone
1	CT, ME, MA, NH, RI, VT	(617) 565-4180
2	NJ, NY, Puerto Rico, Virgin Islands	(212) 637-4249
3	DE, MD, PA, VA, WV, District of Columbia	(215) 597-3237
4	AL, FL, GA, KY, MS, NC, SC, TN	(404) 347-2864
5	IL, IN, MI, WI, MN, OH	(312) 353-8651(IL & IN) (312) 886-5031(MI & WI) (312) 886-7017(MN & OH)
6	AR, LA, NM, OK, TX	(214) 655-7547
7	IA, KS, MO, NE	(913) 551-7960
8	CO, MT, ND, SD, UT, WY	(303) 293-1886
9	AZ, CA, HI, NV, American Samoa, Guam	(415) 744-1143
10	AK, ID, WA, OR	(206) 553-1949

This pamphlet is intended for general reference only; it is not a full and complete statement of the technical or legal requirements associated with the regulation. A copy of the rule can be obtained from the Federal Register or the EPA's Technology Transfer Network (TTN). The TTN can be accessed via modem by dialing (919) 541-5742. Call (919) 541-5384 for TTN assistance.

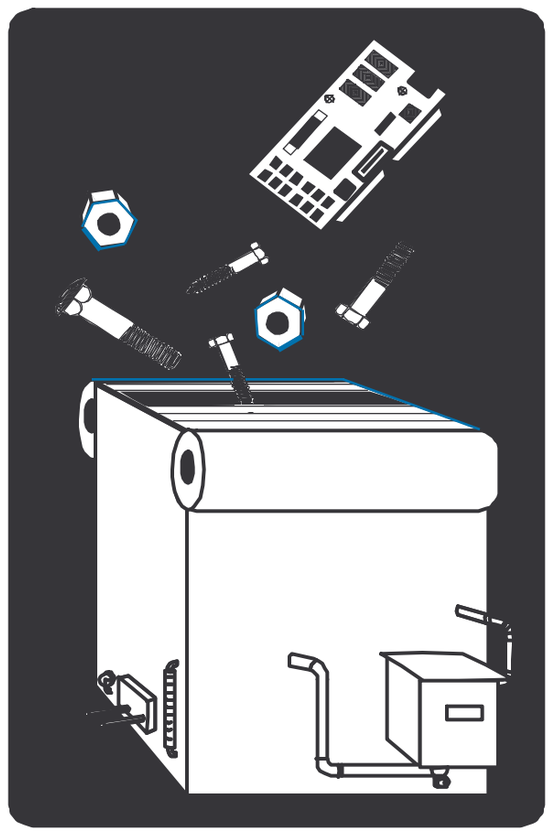
The EPA will publish the "Guidance Document for the Halogenated Solvent Cleaner National Emission Standards for Hazardous Air Pollutants (NESHAP)" (EPA-453/R-94-081), which will explain the rule and will contain example compliance forms and other compliance aids. This document can be obtained from the sources noted above or from the US EPA Library (MD-35), RTP, NC 27711, telephone (919) 541-2777, or the EPA Control Technology Center (CTC) at (919) 541-0800.

United States Environmental Protection Agency

EPA-453/F-94-083
March 1995

Office of Air Quality Planning and Standards (MD-13)

NEW REGULATION CONTROLLING AIR EMISSIONS FROM SOLVENT CLEANING MACHINES (DEGREASERS)



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INTRODUCTION

In December 1994, the U.S. Environmental Protection Agency (EPA) issued national regulations to control toxic air pollutant emissions from solvent cleaning machines that use any of the following halogenated solvents: methylene chloride, perchloroethylene, trichloroethylene, 1,1,1,-trichloroethane, carbon tetrachloride, and chloroform. Solvent cleaning machines are used to dry materials and remove soils, such as grease, wax, and oil from metal parts (such as nuts, bolts, and springs), circuit boards, sheet metal, assemblies, and other materials. The regulation appeared in the December 2, 1994, edition of the Federal Register (beginning on page 61801). This regulation is a **pollution prevention** regulation that reduces solvent usage by requiring the use of good housekeeping practices and efficient, well-controlled cleaning machines.

Why the EPA regulated solvent cleaning machines.

The 1990 Clean Air Act (CAA) directs the EPA to regulate emissions into the air of 189 toxic chemicals, including the halogenated solvents covered by this rule, from a wide range of industrial sources. The halogenated solvents listed above are known or suspected carcinogens, and have high usage and emissions in solvent cleaning. Therefore, the EPA has determined that emissions from cleaning machines using these solvents present a threat to human health or the environment. The EPA is regulating the emissions of these machines to meet the requirements of the CAA. The EPA estimates that full compliance with this new regulation will reduce air emissions of these toxic solvents by 85,300 tons annually.

Who is covered by this regulation?

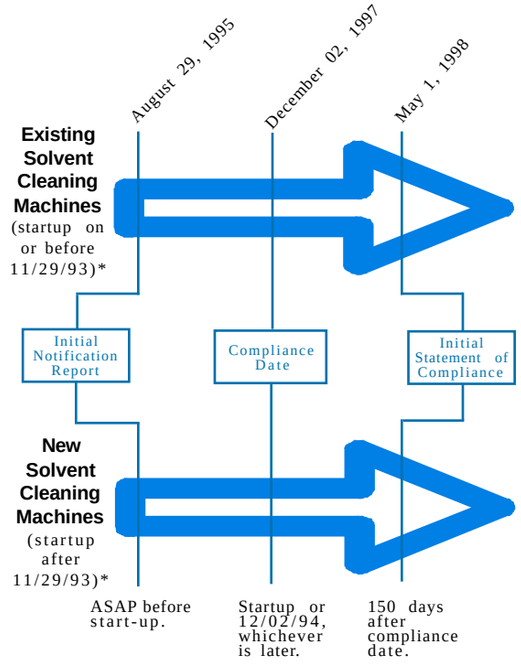
All owners and operators of any size solvent cleaning machine at any size facility that uses one of the six solvents listed above is affected by this regulation.

- Owners and operators of batch cold cleaning machines have special provisions under this regulation (see inside).
- How you are affected depends on the type of solvent cleaning machine you use and the compliance option that you choose (see inside).

FEATURES OF THE RULE

- **Flexibility** - Choose one of several compliance options.
- **Pollution Prevention-** **All** compliance options are based on **pollution prevention**. **All** controls are based on **pollution prevention** except carbon adsorbers.
- **Cost Savings** - Savings from reduced solvent use help offset control costs.

COMPLIANCE SCHEDULE



*11/29/93 = date of proposed standards

THE EPA's SOLVENT CLEANING AIR TOXICS REGULATION: COMPLIANCE OPTIONS AND REQUIREMENTS

For Batch Vapor and In-Line Cleaning Machines

For each machine, choose either the overall emission limit or the equipment standard (see flow chart).

- If you choose the overall emission limit:
  - meet the appropriate limit
  - there are no equipment, work practice, or operator test requirements
- If you choose the equipment standard:
  - comply by selecting a listed control combination or the idling limit
  - in addition, comply with basic design, work practice, and operator test requirements

OVERALL EMISSION LIMIT

If you can demonstrate compliance with these limits, there are no additional monitoring or work practice requirements [Initial notification and compliance reports are still required.]:

Machine Type	Average Monthly Emission Limit kg/m² * month [lb/ft² * month][a]
Batch Vapor	150 [30.7]
Existing In-Line	153 [31.4]
New In-Line	99 [20]

[a]The amount of solvent in kilograms [pounds] emitted per square meter [foot] of solvent surface area per month.

OR

EQUIPMENT STANDARD WITH WORK PRACTICES

CONTROL COMBINATIONS

For each cleaning machine, install a control combination applicable to that cleaning machine type.

IN-LINE MACHINES

Cleaning Machine Type	Option	1.0 Freeboard Ratio	Super Heated Vapor	Freeboard Refrigera-tion Device	Carbon Adsorber	Dwell
In-Line - Existing	1	■	■			
	2	■		■		
	3			■		■
	4				■	■
In-Line - New	1		■	■		
	2			■	■	
	3		■		■	

BATCH VAPOR MACHINES

Cleaning Machine Type	Option	Working Mode Cover	1.0 Freeboard Ratio	Super Heated Vapor	Freeboard Refrigeration Device	Reduced Room Draft	Carbon Adsorber	Dwell
Batch Vapor Cleaning Machine ≤1.21 m² [≤13 ft²]	1	■	■	■				
	2			■	■			
	3	■			■			
	4		■	■		■		
	5				■	■		
	6		■		■			
	7				■			■
	8		■			■		■
	9				■		■	
	10		■	■			■	
Batch Vapor Cleaning Machine >1.21 m² [>13 ft²]	1		■	■	■			
	2				■	■		■
	3	■		■	■			
	4		■	■		■		
	5			■	■	■		
	6		■		■	■		
	7			■	■		■	

OR

IDLING LIMIT

Demonstrate that the cleaning machine can meet and maintain the following idling mode emission limits (a test method for determining idling emissions is included in the rule):

Batch Vapor Cleaning Machines[a] -
0.22 kg/m² * hr
[0.045 lb/ft² * hr]

In-Line Cleaning Machines[a] -
0.10 kg/m² * hr
[0.021 lb/ft² * hr]

[a]The amount of solvent in kilograms [pounds] emitted per square meter [foot] of solvent surface area per month.

AND

DESIGN AND WORK PRACTICE REQUIREMENTS

Design Requirements:

1. Cover or reduce room draft.
2. 0.75 freeboard ratio or greater.
3. Hoist: maximum speed of 3.4 [11 feet] meters per minute.
4. Liquid and vapor level indicators that shut off sump heat.
5. Primary condenser (required on vapor cleaning machines).
6. Carbon adsorber, if using a lip exhaust.

Work Practices:

1. Minimize air disturbances in the cleaning machine and in the room.
2. Minimize solvent loss due to spraying operations.
3. Reduce the pooling of solvent on and in parts.
4. Remove parts only after solvent dripping stops.
5. During startup, turn primary condenser on before sump heater.
6. During shutdown, turn sump heater off before the primary condenser.
7. Maintain equipment as recommended by the manufacturer.
8. Store solvent waste in closed containers.
9. Do not clean absorbent materials.
10. Take and pass an operator test, if requested.
11. Transfer solvent using leakproof couplings.

AND

For Batch Cold Cleaning Machines

For each machine, comply with one of the following equipment requirements and the work practices (machines with water layer are exempt from work practices). There is no operator test requirement.

CONTROLS

Immersion cold cleaning machines
Cover and a 2.5 cm [1 in.] water layer
or
Cover and a 0.75 freeboard ratio or greater

Remote Reservoir cold cleaning machines
Cover

WORK PRACTICES

1. Store solvent waste in closed containers.
2. Flush parts in freeboard area.
3. Reduce the pooling of solvent on and in parts.
4. Do not fill cleaning machine above fill line.
5. Clean up spills immediately.
6. Store wipe rags in closed containers.
7. Do not agitate solvent to the point of causing splashing.
8. When cover is open, control room drafts.
9. Do not clean absorbent materials.

OPERATOR TEST

WHAT IS IT? A short test on operating procedure requirements that must be completed and passed.

WHO MUST TAKE IT? Any operator of a batch vapor or in-line solvent cleaning machine that is asked to take the test by the EPA or the EPA's designee during an inspection. Operators of batch cold cleaning machines are not required to take the test.

WHERE IS IT? The complete test and answers are included in Appendix A of the final rule.